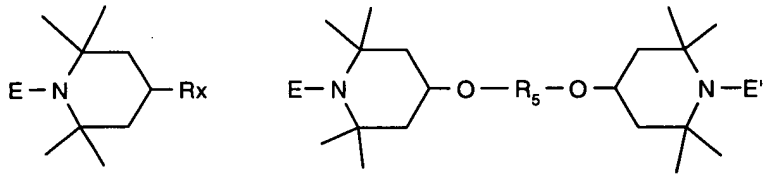
CO/21-22849/A/CGC 2144

Water Compatible Sterically Hindered Alkoxyamines and Hydroxy Substituted Alkoxyamines

Abstract of the Disclosure

Sterically hindered alkoxyamine and hydroxy substituted alkoxyamine stabilizer compounds are made water compatible via certain backbones with affinity towards water. The sterically hindered amines are for example of the formula



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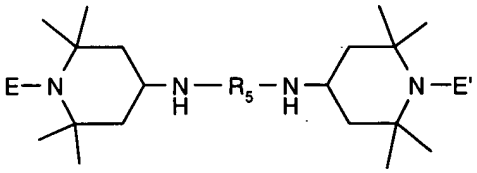

or

where for example E and E' are 2-hydroxycyclohexyloxy, 2-hydroxy-2-methylpropoxy, benzyloxy, methoxy, propoxy, hexyloxy, heptyloxy, octyloxy or cyclohexyloxy, R_x is for example $-NH_2^+CH_2CH_2OH\ Cl^-$, $-NH_3^+\ ^-OAc$, =NOH, $-NHCH(CH_3)COO^-K^+$, $-NHCH_2CH_2N(CH_3)_2^+\ ^-OAc$, $-NHCH_2CH_2SO_3^-K^+$, $-NHCH(COO^-\ K^+)CH_2CH_2SCH_3$, $-NHCH_2COO^-\ K^+$, $-OCH(CH_3)COO^-K^+$, $-OCH_2CH_2N(CH_3)_2^+\ ^-OAc$, $-OCH_2CH_2SO_3^-K^+$, $-OCH(COO^-\ K^+)CH_2CH_2SCH_3$ or $-OCH_2COO^-\ K^+$, and where R_5 comprises repeating units of $-(OCH_2CH_2)-$, $-(OCH_2CH_2(CH_3))-$, $-(CH_2CHCOOH)-$, $-(CH_2C(CH_3)COOH)-$, $-(CH_2CHCOOCH_3)-$, $-(NHCH_2CH_2)-$, $-(CH_2CHOH)-$, $-(CH_2CHCONH_2)-$ or $-(CH_2CH(NHCOH))-$. These compounds are particularly effective in stabilizing aqueous polymer systems against the deleterious effects of oxidative, thermal and actinic radiation. The compounds are effective for example in stabilizing water borne coatings, aqueous inks, aqueous ink jet media and photocured aqueous systems.